TECHNICAL MANAGEMENT TEAM
MEETING NOTES
August 4, 2004
CORPS OF ENGINEERS NORTHWESTERN DIVISION OFFICES – CUSTOM HOUSE
PORTLAND, OREGON
FACILITATOR'S SUMMARY NOTES ON FUTURE ACTIONS
Facilitator: Donna Silverberg

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the "record" of the meeting, only a reminder for TMT members.

Fall Fisheries/Fish Run Finals:
Cindy LeFleur, WDFW, presented power point slides (also attached to the TMT agenda) on adult return forecasts, fisheries economics and management constraints. Preliminary results for summer chinook returns to the Columbia River mouth were 92,400; and 123,700 for sockeye. The following bullets summarize the forecasted return numbers for 2004:

- 634,900 Fall chinook
    - 287,000 Upriver Bright Fall chinook
    - 6,100 Snake River wild Fall chinook
    - 88,800 Mid-Columbia Brights
    - 150,000 Bonneville pool hatchery Fall chinook

The 2003 recreational fishery economic value was estimated at $55 million for below Bonneville on the Washington and Oregon sides. The commercial fishery economic value was estimated at $6 million, and the Treaty Indian fishery for 2000 was estimated at $1.5 million. For additional information, visit the WDFW website at: www.wdfw.wa.gov/fish/crc/crcindex.htm. The ODFW website also lists information on fish runs: www.dfw.or.state.us.gov. "Joint" staff reports (Oregon, Washington, Idaho, four Columbia River treaty tribes, NOAA, and USFWS) describe historical attributes of the fisheries. Joint fact sheets give in-season management and fish numbers. There will be regular updates on fall fisheries and adult fish runs at future TMT meetings.

Dworshak Temperatures/Operation Update:
Cindy Henriksen, COE, reported on the current status of Dworshak. Outflows are 11.6 kcfs; temperature releases are down to 43°, per TMT discussions on July 26th. The Lower Granite tailrace is down to 64°. The COE informed TMT that, compared to last year, there is less volume of water at which 40-45° can be maintained. When the Dworshak operation ends and the powerhouse goes down to one unit, which will necessitate going into overshot or undershot mode, the disparity between the temperatures will likely be much greater if the project continues to release 43° now. Overshot would likely provided water too warm to aid in river temperature control and undershot would be too cold. The COE suggested that the temperatures be raised to 45° to 46° now to ensure a smaller

disparity of temperatures later when there is only one unit in use (around September 15th.)

Dave Wills, USFWS, reported that the downstream hatcheries prefer slightly warmer temperatures now, and prefer to maintain stable temperatures. The COE's proposed operation was acceptable to the hatchery and other salmon managers.

ACTION: The COE will raise temperature releases to 45° today (8/4) and reduce flows to full powerhouse after midnight on Sunday, August 8th. The COE and the salmon managers will monitor temperatures to provide the full benefit of cooler water temperatures.

Sturgeon Update:
Bob Hallock, USFWS, reported that they spawned 8 female sturgeon in the hatchery. 16 were transported for in-river spawning. There were two potential female spawners over gravel this year, which would make them #5 and #6 and the first in 13 years! A similar process of doing an intervention of in-river fish and moving them upstream may be pursued again next year. Discussions are underway on this. The USFWS does not expect habitat changes next year.

Zone 6 Tribal Summer Fishery Review:
Kyle Martin, CRITFC, reported on the 2004 summer tribal fishery – his handouts are linked to today's agenda. Kyle did not hear of any net problems as a result of pool fluctuations thus far. Overall lessons learned include: John Day is the preferred pool for summer fisheries so next year, continued improvements at this project will be helpful. Also, the COE has improved in maintaining flat flows at each of the pools, which is one of the objectives of the tribal fishery requests. Finally, the COE prefers a reasonable amount of notice so they and BPA operators are able to implement the request. Total catch numbers were: 8,703 summer chinook; 5,464 steelhead; and 4,310 sockeye.

ACTION: Kyle will check on the number of lost nets this year, and report back to interested TMT members.

Lower Granite Powerhouse Outage:
The COE had planned to do doble testing on August 16-19 which would require the project to go offline. New developments have resulted in the COE asking the project to delay the outage to September 20th, when all required work at the project can be completed. This will require a total 20 kcfs spill during the time of the outage (6 days expected). The salmon managers were asked to consider spill options including time of day, whether to use the RSW, and whether to operate outside of MOP at that time. The salmon managers will discuss this at FPAC and give feedback at the next TMT meeting.

Libby/Hungry Horse Operations:
Libby is at elevation 2448' with outflows at 12.5 kcfs. The project should reach elevation 2439' during the first week in September. Hungry Horse is at 3552', drafting .5' today. Outflows are 5.1-5.2 kcfs.

Bonneville Spillway Flow Discrepancy:
The COE found a discrepancy in the actual and reported amount of spill from Bonneville. Laurie Ebner, COE Portland District-Hydro, presented information that there was a discrepancy in spill between Bonneville and The Dalles. The COE discovered that the problem is at Bonneville. After determining the problem, they developed a list of planned actions:

- Develop plan for calibration of each spillway gate – available for review 8/11
- Calibrate/verify the gate opening for each spillway gate
- Verify rating curve
- Verify that changes implemented take care of the historical discrepancy in total river flow between The Dalles and Bonneville
- Develop strategy to communicate discrepancy so previous published work can be properly interpreted

COE recommendations include:

- Modify the measurement system at Bonneville such that the reported flow from Bonneville is closer to the actual flow.
- Develop and coordinate a plan to calibrate each spillway gate.
- Perform spillway gate calibration.
- Verify that corrections for each spillway gate opening account for the discrepancy in total river flow between The Dalles and Bonneville.
- Develop a communication plan for the region.

ACTIONS: The COE plans to begin reworking the gate lifts as of tomorrow. They may see unusual data for the next period while trying to re-calibrate. There will be an update on longer term actions at the next TMT meeting.

Status of Spill:
Based on Judge Redden's ruling last week, BiOp spill will continue at Bonneville and The Dalles through August. The COE removed the amended WMP to stop spill. At least one party to the case had filed an appeal to the ruling, as of today.

System Status:
Reservoir operations: Grand Coulee is at elevation 1283.6', with 80 kcfs inflows.

Fish status: Subyearling numbers at Lower Granite are dropping, now below 1,000. Numbers at McNary are down to ~30,000. Adult fall chinook numbers are similar to, thus far, previous years.

Power system: The system is operating to meet load. A CGS tripped off on Friday; project operators are working to get it back on-line.

Water quality: TDG exceedances in the McNary forebay occurred, due to increased temperatures. The COE provided graphs of McNary temperatures from April 1st to date. This and additional data are available as links to today's agenda.'

Next Meeting, Wednesday, August 25th, 9am-noon:

Agenda Items:

- Bonneville Spillway Discrepancy
- Lower Granite Powerhouse Outage
    - Salmon managers preferred operation
- Status of Dworshak Temperatures
- Autumn Treaty Fishery
- Begin Discussion: End of MOP in Lower 3 Pools
- Systems Status

1. Greeting and Introductions

The August 4 Technical Management Team conference call was chaired by Cindy Henriksen of the Corps and facilitated by Donna Silverberg. The following is a distillation, not a verbatim transcript, of items discussed at the meeting and actions taken. Anyone with questions or comments about these minutes should call Henriksen at 503/808-3945.

2. Fall Fisheries.

Cindy LeFleur provided a presentation on the status of the summer and fall fisheries in the Lower Columbia. She began with a preliminary count of adult summer chinook returns in 2004 (92,000), noting that all counts are to the mouth of the Columbia, and that recent summer chinook runs have been among the best on record. LeFleur provided the following additional preliminary run counts and estimates:sockeye, 123,000, fall chinook, 635,000, the fifth-largest estimate since 1948. There are five basic management groups within that total, she noted. For upriver bright, the forecast is 287,000, a really good return. These are primarily wild fish; this includes the Hanford stock. Snake River wild, the listed component, the forecast is 6,100, down from 6,900 in 2003. Mid-Columbia brights: these are hatchery fish returning to Bonneville hatchery and hatcheries above Bonneville dam; the forecast for 2004 is 88,800. Tule fall chinook, primarily from Spring Creek Hatchery: 150,000, a very good return.

One thing we do in the fall, as a management tool, is Bonneville Dam Observation, where we sit in the counting station and count the number of tule and bright chinook, LeFleur continued; we divide the run by looking at the skin color of those fish. LeFleur explained that the bright fish, as their name implies, are bright silver in color, because they migrate farther and spawn later; the tules have darker skins because they're closer to spawning. She put up a graph showing the forecasts for these two stocks: 453,000, total, at Bonneville Dam.

LeFleur put up a map showing the zones of the non-Indian commercial fisheries and the treaty fisheries. The economic value of the non-Indian commercial harvest was about $6 million in 2003, down sharply in recent years (from $40 million in 1988), due to falling prices and the influence of the ESA on harvest rates. The prices have begun to turn around slightly in recent years, she noted. LeFleur added that the breakdown between the fall commercial and sport fishery is approximately 50-50, in terms of fish numbers allotted. LeFleur also touched on the management constraints guiding the

spring, summer and fall fisheries. She added that more complete information on the fisheries is available from the Columbia River Compact and ODFW websites. LeFleur said she will provide further updates as the fisheries progress.

3. Sturgeon Update.

Bob Hallock said a total of eight female sturgeon were spawned in the hatchery this year. He noted that the releases requested from Libby in 2004 were modest, by recent standards; 13-16 Kcfs. A total of 16 fish – 6 females – were transported upstream in 2004; two of those females stuck around on the spawning grounds this year, before abruptly migrating downstream some 15 miles overnight, generally a characteristic behavior of just-spawned females. These are the only females we believe to have spawned in the river in the last 13 years, which is cause for optimism, he added. In 2005, no significant changes are expected, Hallolck said; we may simply take females into the hatchery, fertilizing their eggs and placing the fertilized eggs on the substrate in the river. If so, it is likely that a similar flow request will be submitted, he said.

4. Dworshak Temperatures, Operations Updates.

The Corps provided a variety of graphs showing the current water temperature situation in the Snake and Clearwater rivers. Henriksen said Dworshak is currently releasing 11.6 Kcfs; the release temperature has been reduced to 43 degrees F. At Lower Granite's tailrace gauge, we're seeing temperatures in the 64-66-degree range, currently, said Henriksen. What we wanted to talk about today is the quantity of water available within Dworshak reservoir at various temperatures, she said. Jim Adams said that, in 2004, the quantity of colder water in the 40-45-degree range is significantly less than it was in 2003, primarily due to the way the thermocline set up this year. Have you re-assessed your statement, a few weeks ago, that there was adequate cold water available in 2004? Ron Boyce asked. Yes, Adams replied – it now looks as though we have enough 40-45-degree water to last only until the end of August. After that, we will either have to release much colder or much warmer water, through undershot or overshot mode. Can you mix the two? Boyce asked. Only if you have more than one unit running, Adams replied.

Our concern is that, once we get out toward the end of September, we'll have to choose between 41-degree water or 62-degree water, Henriksen said – it may make sense to go to a slightly warmer release temperature now, to save some of the mid-temperature water for later in the season. We could operate one unit in undershot mode and one in overshot mode, Adams explained. In other words, right now we have the ability to mix flows using over-and-undershot mode, whereas later in the season, we won't have that ability. The Corps anticipates that this will result in a Dworshak release temperature of 45-46 degrees, rather than the current 43 degrees. Such an operation could be set up within a few hours, he added.

Essentially, we're trying to plan for post-drafting operations, because very cold or very warm water won't be good for the hatchery, said Adams. In response to a question,

Adams said the Corps anticipates that it will reach elevation 1520 and drop to a one-unit operation at Dworshak some time around September 15.

Kyle Martin noted that a cooling trend is on the way for the Lewiston area, with temperatures forecast in the mid-80s through the weekend. In other words, he said, this is probably a good time to implement this operation. In response to a question, David Wills said personnel at Dworshak National Fish Hatchery would prefer to see the 45-46 degree temperature now, for optimal steelhead growth. They would prefer to go to 45-46 degrees no later than mid-August, he said. Martin added that there are no major heat waves on the immediate horizon for Lewiston.

After a brief discussion, no TMT objections were raised to the proposed operation; Henriksen said the Corps will increase Dworshak's outflow temperature to 45-46 degrees this afternoon. In response to a question, Henriksen said the current flow at Lower Granite is about 27 Kcfs; it is expected to fall to 23-24 Kcfs by next week. Dworshak outflow will be reduced to full powerhouse capacity (9.5 Kcfs) at midnight Sunday, August 9.

5. Zone 6 Tribal Summer Fishery Review.

Martin provided a review of the four summer treaty fisheries in 2004, specifically, how well the Corps was able to meet the specific elevations requested in the tribal SORs. The requested elevation range was met 71% of the time in Bonneville pool, 58% of the time in The Dalles pool, and 15% of the time in John Day pool. The Corps was in compliance with the elevation ranges it agreed to maintain during the summer treaty fisheries 88% of the time in Bonneville pool, 84% of the time in The Dalles pool and 85% of the time in John Day pool. Martin noted that the summer tribal fishery is somewhat unique, because the majority of the nets are set in John Day, rather than Bonneville, pool.

He said that, according to tribal law enforcement personnel, no major safety incidents were reported. According to WDFW, 8,703 summer chinook, 5,464 steelhead and 4,310 sockeye were harvested by summer tribal treaty fishers in 2004. If we have a summer treaty fishery in 2005, he said, CRITFC would ask the Corps to focus on John Day pool, in terms of maintaining the requested elevation range. In response to a question from Scott Bettin, Martin said he has no information, at this time, on the number of nets lost during the summer treaty fishery. In response to another question, Martin said he should know the date of the first fall treaty fishery within the next couple of weeks.

Henriksen reminded Martin that the week of July 14 – 17 had been previously discussed at TMT. That week, the Corps received CRITFC's request for a high pool operation late in the day July 13, and the Corps had previously agreed to a low pool operation at Bonneville for work on a boat ramp. Henriksen reminded Martin that RCC staff had asked him how he wished to have the operation handled. Martin had chosen the lower elevations shown. At John Day, Henriksen said, the Corps operates between elevations 262.5 feet and 264.0 feet per the NOAA BiOp. The elevations CRITFC

requests for John Day are above that range and outside the BiOp. Given the discrepancy, Henriksen said, the Corps would operate to the BiOp range.

6. Lower Granite Powerhouse Outage (August 16-19) Update.

Henriksen reminded the TMT that it had already discussed the planned 7 a.m.-5 p.m. doble testing outage at Lower Granite; since then, the Corps has learned that it would be necessary to have a much longer outage -- up to six days. The outage has therefore been postponed until September 20. We expect the flow to be about 20 Kcfs at Lower Granite by that time; we will be spilling the entire river once the outage begins, with the exception of 5 Kcfs, which will run through a single unit at speed-no-load to provide station service, Henriksen said. The question for the TMT is, do you want the 15 Kcfs of spill to go through the RSW, or over the spillway? It was agreed to revisit this topic at the next TMT meeting.

7. Libby/Hungry Horse Operations Update.

Henriksen said Libby continues to release 12.5 Kcfs; 2448 is the current elevation. The project is expected to reach elevation 2439 some time in the first week in September, perhaps as late as September 11. Tony Norris reported that Hungry Horse is at elevation 3552, drafting half a foot per day, with outflows of 5.2 Kcfs. The draft rate will increase as inflows continue to decline.

8. Bonneville Spillway Flow.

Henriksen noted that she had sent out a memo describing the recently-discovered discrepancy in spillway volumes at Bonneville Dam. I wanted to let people know that the discrepancy existed, she said, and that we would be talking about it at today's meeting. Lori Ebner of the Corps' Portland District provided an overview of the problem, noting that the discrepancy in flow between Bonneville and The Dalles was first noted in December 2003; it appears to have its origin in the new spill pattern and flow deflectors that came online at Bonneville in 2002.

Ebner provided the historical background for this problem, noting that there have historically been two types of gates at Bonneville: 50-foot-high gates and 60-foot-high gates. The last time the Bonneville rating curves were recalibrated was 1967. There is some question whether the discharge coefficients are exactly right for the smaller gate openings, Ebner said.

In measuring the gates, we found that there is a 4-inch discrepancy between what is being reported and what is actually being delivered, said Ebner. We did that measurement last week, she added. Ebner then provided an overview of the gate control structures.

The plan of action now is to recalibrate each spillway gate, said Ebner; that plan will be made available for regional review. We will also review the rating curves, especially for small gate openings. We want to verify that the changes implemented

account for the discrepancy, Ebner said. We will then develop a strategy for communicating any discrepancies. She noted that these 50-foot gates are not really designed for fine flow control. There is always uncertainty when you're measuring discharge, she said; there is inherent error in the calibration calculations.

Ebner provided some preliminary, worst-case estimates of the spill discrepancies the Corps believes has occurred, in the form of a table (Ebner's entire presentation is available via hot-link from today's agenda on the TMT homepage; please refer to this document for full details). Over the next few days, Bonneville project personnel plan to re-measure the gate openings, to provide a reported flow that is closer to the actual flow. We will also develop and coordinate a plan to re-calibrate each gate, and verify that the re-calibration accounts for any discrepancy. How quickly that occurs will depend on how quickly we can get regional agreement on the plan, Ebner added.

The bottom line is that we do plan to have the project, tomorrow, start re-working the way they're doing the gate lifts, Henriksen said, so that when we report that we're spilling 75 Kcfs at Bonneville, we are actually spilling 75 Kcfs at Bonneville. That may mean that we see some unusual data tomorrow and Friday as they conduct that recalibration work, she said. Second, in the longer term, the Corps will be developing a more rigorous testing and recalibration plan for discussion at FPAC and TMT.

How long has this discrepancy been going on? Wills added. Possibly since 1972, when the gates were modified at Bonneville, although the most serious discrepancies have most likely occurred since 2002, when the flow deflectors were installed and the flow pattern was modified, Ebner replied. Boyce pointed out that, given this information, it appears that the region has been shorted between 5 Kcfs and 10 Kcfs in BiOp spill at Bonneville. Henriksen disagreed, noting that the calculation is not that simple; the Corps has been acting in good faith, and operating Bonneville according to the best information available. Still, there has been a large discrepancy since 2002, Boyce said; while I'm not trying to point fingers, it would have been nice to get to the bottom of that discrepancy before now. The bottom line is that the Corps is now taking the necessary steps to ensure that 75 Kcfs of daytime spill is actually being delivered, he said.

Ebner noted that, once the recalibration occurs, it is likely that the Corps will discover that a number of the gates are reporting correctly, and will be able to recalibrate those that are reporting incorrectly. As of Saturday, what will be reported will likely be very close to what is actually being delivered, she said. We would like to get all of this taken care of as soon as possible, she said; we are committed to having a permanent fix in place by March 2005. We'll revisit this topic at the next TMT meeting, said Silverberg.

[Editor's note: The Corps has decided not to make an interim fix on August 5 – 6 to spill quantities being reported. The spill quantities being reported will continue to be about 85 kcfs during daylight hours until a final calibration methodology can be completed.]

9. Status of Spill.

Henriksen said spill is continuing at Bonneville and The Dalles; spill is scheduled to continue at these projects through August 31. And the Water Management Plan will be modified to reflect that? Boyce asked. Yes, was the reply, that appendix to the Water Management plan has been removed from the web. This is a result of Judge Redden's ruling last week? Silverberg asked. Correct, Henriksen replied. In response to another question, Boyce said he is aware of one pending appeal to that ruling.

10. Status of Operations.

Norris said Grand Coulee is at elevation 1286.3, with inflows of 80 Kcfs and outflows of 80-100 Kcfs depending on the day of the week. The project is expected to reach elevation 1280 by August 31. With respect to the status of the migration, Wagner said the subyearling index at Lower Granite and the other Lower Snake projects is declining. At McNary, the index has been running in the 30,000 fish-per-day range. In terms of run timing, 2004 appears to be slightly ahead of the curve, Wagner said; at Lower Granite, the subyearling run is now falling off rather precipitously. The pattern is similar at McNary. Moving on to PIT-tag data, Wagner said Snake River fall chinook, including wild stocks, are still passing Lower Granite Dam in small numbers. These are typically late-migrating fish, which is why we're still just seeing a handful passing the dam, Boyce observed.

With respect to the power system, Wellschlager said the CGS nuclear plant in Richland tripped offline earlier this week; the operators are working to get that facility back on-line. Other than that, the power system is operating to meet load.

Adams provided an overview of the current water quality status of the system, noting several TDG and water temperature exceedences in recent weeks, particularly at McNary. He noted that a variety of water quality-related documents are attached to today's agenda on the TMT homepage.

11. Next TMT Meeting Date.

The next meeting of the Technical Management Team was set for Wednesday, August 25. Meeting summary prepared by Jeff Kuechle.

TMT Participant List

August 4, 2004

Name	**Affiliation**
Cindy Henriksen	COE
Tony Norris	USBR
Ron Boyce	ODFW
Russ Kiefer	IDFG

David Wills	USFWS
John Wellschlager	BPA
Cindy LeFleur	WDFW
Lee Corum	PNUCC
Russ George	WMCI
Scott Bettin	BPA
Nic Lane	BPA
Scott Boyd	COE
Jim Adams	COE
Laura Hamilton	COE
Steve Haeseker	USFWS
Kyle Martin	CRITFC
Mike O'Bryant	CBB
Margaret Filardo	FPC
Bruce MacKay	Consultant
Martin Hatscher	SCL
Bill Rudolph	NWFL
Paul Wagner	NOAAF
Donna SIlverberg	Facilitation Team